

## NOTES ON THE FORAMINA OF MAGENDIE IN MAN AND THE CAT.

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TWO years ago (*N. Y. Medical Journal*, April 26, 1884, p. 458) I expressed doubts as to the existence of communications between the metepicœle ("fourth ventricle") and the subarachnoid space. In the light of Hess' paper on the subject (*Morphologisches Jahrbuch*, x., 578-602, 1885), I have recently examined several human and cat brains, and reached the following conclusions :

1. In man and the cat the arachnoid passes from the lateral and caudal surfaces of the cerebellum to the oblongata and myel, so as to leave a "subarachnoid space."

2. In both there are "lateral recesses" of the metepicœle extending laterad just caudad of the cerebellar medipeduncle along the course of the auditory nerve root. These recesses expand upon the sides of the oblongata more in the cat than in man, and justify Reichert's comparison with the "lateral ventricles." The endymal floor of the expanded portions rests upon the roots of the glosso-pharyngeus and vagus nerves. They are continued caudad, narrowing considerably, and open at either side into the subarachnoid space.

3. In both there are plexuses in the lateral recesses, formed by intrusions of the vascular pia as in the medicornu.

4. In the cat the metacœle (metencephalic part of the "fourth ventricle") is completely roofed in by a continuous metatele, so that there is no "foramen."

5. In man the metacœle opens into the subarachnoid

space by a mesal "foramen of Magendie" approximately rhomboidal in outline, about 5 mm. wide and 8-10 mm. long.

6. The recesses and orifices are not always described or figured in anatomical works, and never, so far as I know, fully or correctly; for example, the margins of the mesal foramen are represented as smooth by Henle ("Handbuch," *Nervenlehre*, fig. 232) and Schwalbe (Hoffmann u. Schwalbe, "*Lehrbuch*," *Neurologie*, fig. 256), whereas they are irregular or ragged, even when most carefully exposed.

7. The existence of any natural cœlian orifice is so significant morphologically, and so suggestive physiologically, that the parts here concerned merit very careful examination in man and comparison in animals. Among other points it is desirable to know whether the orifices permit the passage of liquid in one direction more readily than in the other.

8. When the main facts are ascertained it may be possible to determine whether the recesses constitute the lateral divisions of a tripartite metacœle, or whether they bear the same relation to the epicœle. If Gratiolet's figures of the embryonic human cerebellum (Leuret et Gratiolet, "*Anat. Comp. du Syst. Nerv.*," Pl. xxix, Fig. 1, 6) are correct, the cerebellar "ventricle" (epicœle) is already tripartite, as in some sharks, and the recesses may be assigned to the metacœle.